

REMARKS

This is intended as a full and complete Response to the Office Action dated March 14, 2003, having a shortened statutory period for response extended two-months to expire on August 14, 2003. Claims 1-19 and 25-54 remain pending in the application and are shown above. Claims 20 - 54 have been withdrawn by the Examiner and claims 20-25 are cancelled herein. Please reconsider the claims pending in the application for reasons discussed below.

Previously added claims 26-54 have been withdrawn by the Examiner for being directed to a non-elected invention. The Examiner states that the previously elected Group I corresponds to a method of making a barrier layer and new claims 26-54 are directed to a method of making a metal contact on a substrate surface.

Applicants respectfully traverse. New base claims 26, 40, and 50 are related to original claim 1 as combination/subcombination such that claims 26-54 are necessarily patentable if claim 1 is patentable. See, MPEP § 806.05(c). As such, there is no additional burden on the Examiner to examine all the claims at one time. Furthermore, Applicants have amended the preamble of claim 26 to more clearly recite the relationship to the original claims. Moreover, base claim 50 recites a method for making a "metal contact" as noted by the Examiner, however, claim 50 includes every limitation of base claim 1 such that claim 50 is necessarily patentable if claim 1 is patentable. As such, claim 50 and those dependent therefrom should be considered with claim 1. See, MPEP § 806.05(c). Accordingly, withdrawal of the restriction and prosecution on the merits of all claims 1-19 and 26-54 is respectfully request.

Claims 1-19 stand rejected under 35 USC § 103(a) as being unpatentable over *Danek et al.* (U.S. Patent No. 5,942,799) in view of *Nguyen* (U.S. Patent No. 6,495,449). The Examiner states that *Danek et al.* teaches a method for forming a stacked barrier layer on a substrate disposed in a processing chamber comprising serially exposing the substrate to first and second reactive gases to form an adhesion layer. The Examiner states that *Nguyen* teaches serially exposing an adhesion layer to third and fourth reactive gases to form a barrier layer adjacent to an adhesion layer. The Examiner, therefore, asserts that it would have been obvious to "have modified

Danek et al. ...since such a modification would result in low resistivity and the ability to withstand volatile process environments, as described in column 1, lines 35-44 of *Nguyen*."

Applicants respectfully traverse the rejection. None of the references, alone or in combination teach, show, or suggest the claimed invention. Both references *Danek et al.* and *Nguyen* disclose a chemical vapor deposition (CVD) process, not a serial deposition process as recited in the claims. In particular, *Danek et al.* discloses a method of depositing a tungsten layer by CVD followed by a WN_x layer also deposited by CVD. Although *Danek et al.* describes the order of layer deposition as "sequential", the method of deposition itself is not "sequential" or "serial" contrary to the Examiner's assertions. (See, *Danek et al.* at col. 5, lines 13-39.) Similarly, *Nguyen* teaches a method of sequentially depositing two barrier layers by CVD. However, the method of deposition itself is not a sequential deposition process or a process of serially exposing gases to a substrate, as recited in the claims. (See, *Nguyen* at col. 3, lines 10-41 and at col. 5, lines 9-47.) Accordingly, a combination of the references does not motivate or suggest serially exposing a substrate to first and second reactive gases to form an adhesion layer, and serially exposing said adhesion layer to third and fourth reactive gases to form a barrier layer adjacent to said adhesion layer, as recited in the base claims as well as those dependent therefrom. Withdrawal of the rejection is respectfully requested.

The secondary references made of record are noted. However, it is believed that the secondary references are no more pertinent to the Applicants' disclosure than the primary references cited in the Office Action. Therefore, Applicants believe that a detailed discussion of the secondary references is not necessary for a full and complete response to this Office Action.

In conclusion, the references cited by the Examiner, alone or in combination, do not teach, show, or suggest the invention as claimed. Having addressed all issues set out in the Office Action, Applicants respectfully submit that the claims are in condition for allowance and respectfully requests that the claims be allowed.

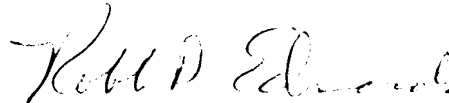
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Respectfully submitted,



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